UniGear ZS1 - Single busbar system
Air-insulated switchgear for power application.

UniGear ZS1 is the ABB mainline global switchgear for primary distribution up to 24 kV, 4 000 A, 50 kA. UniGear ZS1 is manufactured on six continents with more than 200 000 panels installed to operate around the world in more than 100 countries.

UniGear ZS1 is used to distribute electric power in a variety of demanding applications such as on off-shore platforms, in container or cruise ships, in mines as well as in utility substations, power plants or chemical plants. UniGear ZS1 is available in the single busbar, double busbar, back to back or double level solution.

Features
• Standards: IEC, CSA, GOST, GB/DL
• Design: LSC-2B, PM
• Accessibility type: A
• Internal arc class: FLR
• Highly customized versions available
• Switchgear can be back to wall installed

Safety
• Fully type tested according to IEC 62271-200
• Fitted with safety interlocks
• Circuit breaker racking with closed doors

Switching devices
• VD4 vacuum circuit breaker with spring actuator
• VM1 vacuum circuit breaker with magnetic actuator
• HD4 SF6 circuit breaker with spring actuator
• VSC vacuum contactor with magnetic actuator
• NALF switch disconnector

Current and voltage measurement
• Current and voltage sensors
• Conventional current and voltage instrument transformers

Protection and control
• Relion® protection and control relays

Optionally available with
• Optical arc fault protection
• Ultra Fast Earthing Switch UFES
• Surge arresters
• Is-limiter, advanced fault current limiter
• Substation management unit COM600S
• Smart Asset Management solutions
### UniGear ZS1

**Apparatus compartment**

**Low voltage compartment**

**Protection relay with IEC 61850**

**Busbar compartment**

**Cable compartment**

**Current transformer**

**Voltage transformer**

<table>
<thead>
<tr>
<th>Switchgear</th>
<th>12 kV</th>
<th>17.5 kV</th>
<th>24 kV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Arc Classification (IAC)</td>
<td>AFLR</td>
<td>AFLR</td>
<td>AFLR</td>
</tr>
<tr>
<td>Rated voltage [kV]</td>
<td>12</td>
<td>17.5</td>
<td>24</td>
</tr>
<tr>
<td>Insulation levels / power frequency / lightning impulse [kV]</td>
<td>12 / 28 / 75</td>
<td>17.5 / 38 / 95</td>
<td>24 / 50 / 125</td>
</tr>
<tr>
<td>Rated frequency [Hz]</td>
<td>50 / 60</td>
<td>50 / 60</td>
<td>50 / 60</td>
</tr>
<tr>
<td>Rated main busbar current (40°C) [A]</td>
<td>...4 000</td>
<td>...4 000</td>
<td>...3 150</td>
</tr>
<tr>
<td>Rated feeder current (40°C) [A]</td>
<td>...4 000</td>
<td>...4 000</td>
<td>...3 150</td>
</tr>
<tr>
<td>Rated short-time current [kA x 3 s]</td>
<td>...50</td>
<td>...50</td>
<td>...31.5</td>
</tr>
<tr>
<td>Arc proof withstand current (IEC 62271-200) [kA x 1 s]</td>
<td>...50</td>
<td>...50</td>
<td>...31.5</td>
</tr>
<tr>
<td>Height [mm]</td>
<td>2 200 ... 2 696(*)</td>
<td>2 200 ... 2 696(*)</td>
<td>2 325 ... 2 733(*)</td>
</tr>
<tr>
<td>Width [mm]</td>
<td>650 / 800 / 1 000(**)</td>
<td>650 / 800 / 1 000(**)</td>
<td>800 / 1 000(**)</td>
</tr>
<tr>
<td>Depth [mm]</td>
<td>1 340 / 1 390</td>
<td>1 340 / 1 390</td>
<td>1 700</td>
</tr>
</tbody>
</table>

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*) With installed gas exhaust duct

**) Depending on rated feeder current

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